

ABSTRACT OF THE DISCLOSURE

DNA and recombinant DNA that encode a peptide-forming enzyme, a method for producing a peptide-forming enzyme, and a method for producing a dipeptide are disclosed. A method for producing a dipeptide includes

5 producing a dipeptide from a carboxy component and an amine component by using a culture of a microbe belonging to the genus *Sphingobacterium* and having the ability to form the dipeptide from the carboxy component and the amine component, a microbial cell separated from the culture, treated microbial cell product of the microbe or a peptide-forming enzyme derived

10 from the microbe.